Displays

CyRAQ® 17A Series

17" Super-Bright Rack-, Panel-, and VESA-Mount Flat-Panel Displays with Optional AR Bonding™ Technology

USER'S MANUAL

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1 Introduction

Congratulations on your purchase of the most innovative and versatile LCD monitor available today—the CyRAQ® 17A series with AR Bonding™ technology. The CyberResearch CyRAQ 17A uses a groundbreaking flush-mount bezel design making in-wall applications completely seamless. The CyRAQ 17A is also rack-mountable.

The CyRAQ 17A series LCD monitor emits very low radiation levels and virtually no electromagnetic field. Fully compatible with the PC and Macintosh, the CyRAQ 17A series provides dual inputs (VGA and DVI) is "Plug & Play" compatible and also complies with DDC1/DDC2B. The On Screen Display menu provides users with an intuitive interface making it simple to quickly adjust the display.

The CyRAQ 17A series is the first ever 17″ 1280 x 1024 flat-panel flush-mount display with a NEMA 4 rating and AR Bonding. It sets a new standard for clear, bright, flicker-free images and its NEMA 4X front bezel makes it ideal for use in industrial environments.

1.1 Why the CYRAQ® 17A?

The CYRAQ® 17A concept was conceived in the Engineering Department at CyberResearch as we began to examine how the recent advances in LCD technology and image quality could potentially affect our market and customer base. The LCD monitor today provides viewing angles comparable to CRTs with no discernable loss of picture quality; an LCD resultantly provides crisp, clean, deep images WITHOUT screen glare. Coupled with a flat screen, slim design, extremely low radiation discharge, and almost no electromagnetic emissions, an LCD monitor can provide some very distinct advantages to users in manufacturing, commercial and scientific applications.

Put simply, the innovation of the CYRAQ 17A series is derived from its size and applications. Never before have the industrial, scientific and marine markets been able to utilize large LCD monitors (17" 19" & 21") versatile enough to be panel-mounted, yet robust and capable enough to perform in harsh environments. The CYRAQ 17A series stainless steel enclosure not only provides an unmatched degree of protection to the unit's components, it dually helps achieve a NEMA 4X rating capable of sustaining normal operation (when installed correctly) while enduring screen washdown and other procedures commonly practiced in a harsh environment.

The CyberResearch, Inc. CYRAQ 17A series displays have been engineered to couple with a revolutionary new mounting system that allows a user to panel-mount this display without retrofitting disparate hardware, drilling holes, or welding mounting studs. The mounting clamp system makes it a snap to panel-mount a CYRAQ 17A series display.

Currently, the CYRAQ family is comprised of many, many models including displays featuring rear controls only, VESA mounting, choice of color and touchscreen (serial or USB available). CyberResearch has also expanded the CYRAQ family to include the ***CYRAQ® 12*** *(12") &* ***CYRAQ® 15*** *(15")* models, (in addition to 19", 21" & 24") models—please call us or visit our website for more information.

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1.2 CyberResearch® AR Bonding™ Technology

Standard LCDs used in bright ambient light may appear "washed out" due to excessive reflection from these lighting conditions. CyberResearch has developed a manufacturing technique that reduces ambient light reflection inside the display case, making our LCDs appear brighter—even in direct sunlight.

CyberResearch's CYRAQ® 17A series employs our proprietary AR Bonding™ Technology, which seals the display and significantly reduces the transmission of reflected light to the LCD. We've accomplished this by utilizing a high-quality bond that optically couples the front cover glass to the face of the display. This technique practically eliminates internal light reflection, which directly improves viewing quality.

Additionally, sealing the display with AR Bonding™ Technology greatly enhances its structural integrity, providing superior shock protection and dually eliminating the possibility of trapped moisture between the LCD and cover glass. This not only reduces troublesome fogging in humid and moist conditions, it keeps condensation and wetness away from your LCD.

Reducing the effect of ambient light reflection on your display can dramatically improve its performance! When AR Bonding™ Technology is applied to a 250 nit display, it can increase the effective contrast and provide the enhanced daylight viewing equivalent to that of a 500 or 600 nit display without AR Bonding™ Technology. Minimizing refracted ambient sunlight to the LCD yields a discernable increase in display performance.

1.3 Product Safety and Regulatory Information

Environment

1. Dewdrop atmosphere must be avoided.

2. Do not operate and/or store in high temperature and/or high humidity atmosphere. If customer stores the product, keep in antistatic pouch at room temperature.

3. Do not operate in high magnetic field—circuit boards may be broken down by it.

4. Use an original protection sheet on product surface (polarizer). Adhesive type protection sheet should be avoided, because it may change color and/or properties of the polarizer.

Specification for Products

1. Do not display a fixed pattern an extended period of time, it may cause image sticking. If a fixed pattern is displayed on the screen, use a screen saver.

2. This product's luminance is affected by voltage variation, even if power source applies the recommended voltage to backlight inverter.

4. Optical characteristics may be changed by input signal timings.

Others

1. All GND, GNDB, VDD and VDDB terminals should be connected without a non-connected signal line.

2. Do not disassemble the product.

3. If customer would like to replace backlight lamps, contact CyberResearch, Inc.

4. If customer users rivets, do not to leave waste material in inside of display.

5. When customer returns product for repair and so on, pack it with original packaging to avoid damage during shipping.

General specifications for the LCD

The following items are neither defects nor failures.

1. Response time, luminance and color gamut may change with ambient temperature.

2. Optical characteristics (e.g. luminance, display uniformity, etc.) gradually is going to change depending on operating time, and especially low temperature, because the LCD has cold cathode fluorescent lamps.

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1.4 General Specifications

Display		
Display Type		LCD flat panel
Video Input Types		Standard analog VGA (15-pin) DVI (Digital Visual Interface)
Screen Size (viewable area, diagonal)		17"
Display Filter Screen Size		15" to 18"
Display Brightness		500 nits (Super-Bright)
Display Filter Brightness		Super-bright (350 to 740 nits)
Resolution, maximum		1280 x 1024 pixels
Resolutions Supported		1280 x 1024 pixels
Screen Protection		Glass Anti-reflective coating
Display Special Features		Optional AR-Bonding
Maximum Number of Colors		16 million colors
Maximum Color Depth in Bits		24-bit color
Contrast Ratio		600:1
Aspect Ratio		5:4
Viewing Angle	° Horizontal	140°
	° Vertical	130°
Scanning Frequency	Vertical	56Hz....75Hz
	Horizontal	31.5KHz....60KHz
Dot Pitch		0.26mm
Response Rate	GTG (gray-to-gray)	8ms
Backlight Type		CCFT
Chassis		
Mounting Configuration		Rack-mount (EIA 19") Swivel-arm mount
Protection Rating		NEMA 4X
Display Filter Protection		Water-resistant, corrosion-resistant (NEMA 4X)
Front Panel Material		Stainless steel
Chassis Material		Stainless steel
Height, Rack Units		8U (14")
Front Panel Color		Black
Chassis Special Features		• Features an ultracompact, corrosion-resistant enclosure of heavy-duty stainless steel (304 SS). All models come with a water-resistant sealed front panel suitable for washdown. • Built-in Poron® gasket seals between rear of display and user panel. When properly mounted in an appropriate enclosure, these displays meet NEMA 4X standards for watertightness. However, please note that most racks do **not** meet NEMA 4 or 4X standards. • Units without touchscreen feature antireflecting, antiglare, hard-coat glass screens.

Mounting		
VESA Mounting Hole Pattern		100x100mm VESA mounting holes
Mounting Flanges		Built in (integral)
Touchscreen		
Touchscreen Type		Resistive touchscreen
Touchscreen Interface		USB
Light Transmittance of Touchscreen		80%
Touchscreen Quantity of Wires		5-wire
Touchscreen Manufacturer		Hampshire
Touchscreen OS Support		Windows XP Windows NT Windows 2000 Windows Me Windows 98 Windows 95 Windows 3.x MS-DOS Linux Macintosh OS Windows CE Windows NT 4 Windows 98SE
Touchscreen Resolution		4096 x 4096 points
Indicators, Switches, & Controls		
On Screen Display (OSD) Control Functions		Brightness Contrast Horizontal position Vertical position Horizontal size Color balance Color temperature adjustment Video source selection Graphics/text mode select Select language for OSD controls Position of OSD controls Reset to factory defaults Phase adjustment Sharpness Auto adjustment Gamma
Front Panel Controls	Power On/Off Switch	1 on/off switch
	OSD Controls	Sealed OSD controls for menu navigation (5 membrane keys)
	Brightness	Via OSD controls
	Contrast	Via OSD controls
Indicators	Power On/Off	LED indicates power on
	System in Sleep Mode	Shown by change in LED color
Signal Connectors		
Video Input Connectors		HD15 (standard VGA) connector DVI-D Dual Link (25-pin) connector
Touchscreen Connector		USB (Type A / rectangular female)
Cables		
Video Cable Length (included)		6 feet
Pointing Device Cable Length (included)		6ft (1.83m)

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Power Supply		
Nominal Input Voltage(s)		115/230VAC
Input Voltage Range(s)		100...240VAC
Input Frequency		50/60Hz
Power Supply Input Connector		NEMA standard male PC cord socket
Cable from Power Supply to Display (length)		6ft (1.83m)
DC Input Power Info		
DC Power Input Connector on Display		On rear panel On bottom of unit
Power Consumption		
Power Consumption, typ. (power supply)		48W (on), 2W (standby)
Power Consumption Details		Input: 100-240VAC @ 50/60Hz
Cooling		
Cooling Summary		2 cooling fans
Cooling Fans	Number of Fans of This Type	2
	Fan Size	60mm X 60mm
	Volume of Air Movement (CFM per fan)	16cfm
	Fan Location(s)	Rear
Air Filter Location		Rear
Environmental Specifications		
Operating Temperature		32°F....122°F (0°C....50°C)
Storage Temperature		-4°F....140°F (-20°C....60°C)
Relative Humidity, noncondensing		10%....95%
Power Management		EPA Energy Star compliant
Dimensions – *PANEL-MOUNT*		
Width	16.02" (407mm)	
Height	14.49" (368mm)	
Depth (including handles)	3.03" (77mm)	
Depth Behind Panel	2.8" (71mm)	
Protrusion from Rack (including handles)	0.3" (7.62mm)	
Panel-Mount Cutout, Width	15.2" (386mm)	
Panel-Mount Cutout, Height	13.7" (348mm)	
Dimensions – *RACK-MOUNT*		
Width		19" (482.6mm)
Height		14" (355.6mm)
Depth (including handles)		3" (76.2mm)
Width, Rack-Mount		EIA standard 19 inches at flanges
Height, Rack Units		8U (14")
Depth Behind Panel		2.8" (71.12mm)
Protrusion from Rack (including handles)		0.3" (7.62mm)
Weight		
Weight		17.5lbs (7.94kg)
Weight of External Power Supply		1.4lbs (635.03g)
Display Filter Weight		Under 20 lbs.

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1.5 Overview

The CyberResearch® CyRAQ® 17A series is a 17-inch analog/digital LCD monitor that offers the highest quality images possible with dual analog and digital source input. The CyRAQ 17A offers a 600:1 contrast ratio, 1280 x 1024 resolution, pixel pitch of 0.260mm, 140°/130° viewing angle, Analog/Digital video inputs, a scanning frequency of 31.5-60 kHz horizontal and 56-75 Hz vertical, and advanced image scaling.

- 17" Viewable Screen Size
- 1280 x 1024 @ 67 Hz
- 0.26 MM Dot Pitch
- Connects Via VGA (15-Pin) and Digital (DVI)
- NEMA 4X Rating
- Rack, Panel, or Swivel-Arm Mounted

1.5.1 System Requirements

To achieve optimum response time the CyRAQ 17A requires a computer with CPU speeds of 486 or higher. The CyRAQ 17A is compatible with Windows and Macintosh operating systems. To operate the display at its highest resolution a video card that supports 1280 x 1024 pixels is required.

2 Setup

2.1 Unpacking the CYRAQ® 17A Series

Before unpacking it is very important to locate the CYRAQ 17A series monitor in a suitable environment. Make sure the installation location has good ventilation, is out of direct sunlight, away form excessive dust, dirt, heat, water, moisture and vibration. Please see General Specifications section for environmental details.

2.1.1 Your Package Contains:

1) 1 CYRAQ 17A series display
2) 1 CYRAQ Drivers & Manuals CD
3) 1 Power Cable and connector
4) 1 AC to DC Power Converter
5) 1 VGA cable
6) 1 DVI cable
7) 1 User's Manual
8) 10-32 x 1/2″ Button Head Mounting Bolts.....***Rack-Mount Models Only***
9) Mounting Clamps.....***Panel-Mount Models Only***

Optional Accessories:

1) Longer VGA and DVI cables (call for available lengths)
2) 1 Touchscreen connector cable (USB or Serial) for Touchscreen models
3) SWC VESA mounting plate for VESA mount models

> ***NOTE***: If any of these items are missing or damaged contact CyberResearch, Inc. immediately

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2.1.2 Ordering Information

BRUSHED STAINLESS STEEL BEZEL	BLACK COLOR STAINLESS STEEL BEZEL
CyRAQ® 24 Series: 24″ LCD Display, 1920 x 1200, 300 nits*	
#CRSR 24C .....Universal Mount; Rear Controls	#CRBR 24C ..... Universal Mount; Rear Controls
#CRSF 24C ..... Universal Mount; Front Controls	#CRBF 24C .....Universal Mount; Front Controls
CyRAQ® 21 Series: 21.3″ LCD Display, 1600 x 1200, 250 nits*	
#CRSF 21A ..... Universal Mount; Front Controls	#CRBF 21A .....Universal Mount; Front Controls
#CRSR 21A ..... Universal Mount; Rear Controls	#CRBR 21A .....Universal Mount; Rear Controls
#CVSF 21A .....VESA Mount Only, Front Controls	#CVBF 21A ..... VESA Mount Only, Front Controls
#CVSR 21A .....VESA Mount Only, Rear Controls	#CVBR 21A ..... VESA Mount Only, Front Controls
#CPSF 21A..... Panel Mount, Front Controls	#CPBF 21A.....Panel Mount, Front Controls
#CPSR 21A .....**Flush** Panel Mount, Rear Controls	#CPBR 21A .....**Flush** Panel Mount, Rear Controls
CyRAQ® 19 Series: 19″ LCD Display, 1280 x 1040, 250 nits*	
#CRSR 19C .....Universal Mount; Rear Controls	#CRBR 19C .....Universal Mount; Rear Controls
#CVSR 19C .....VESA Mount Only; Rear Controls	#CVSR 19C ..... VESA Mount Only; Rear Controls
#CPSR 19C .....**Flush** Panel Mount; Rear Controls	#CPBR 19C .....**Flush** Panel Mount; Rear Controls
CyRAQ® 17 Series: 17″ LCD Display, 1280 x 1024, 1000 nits*	
#CPSF 17SA .....**Flush** Panel Mount; Front Controls	#CPBF 17SA ..... **Flush** Panel Mount; Front Controls
#CPSR 17SA.....**Flush** Panel Mount; Rear Controls	#CPBR 17SA.....**Flush** Panel Mount; Rear Controls
#CFSF 17SA ..... **Flush** Rack Mount; Front Controls	#CFBF 17SA ..... **Flush** Rack Mount; Front Controls
CyRAQ® 15 Series: 15″ LCD Display, 800 x 600, 1600 nits*	
#CPSF 15SA .....**Flush** Panel Mount; Front Controls	#CPBF 15SA ..... **Flush** Panel Mount; Front Controls
#CPSR 15SA .....**Flush** Panel Mount; Rear Controls	#CPBR 15SA .....**Flush** Panel Mount; Rear Controls
#CFSF 15SA ..... **Flush** Rack Mount; Front Controls	#CFBF 15SA ..... **Flush** Rack Mount; Front Controls
CyRAQ® 12 Series: 12″ LCD Display, 800 x 600, 1250 nits*	
#CPSF 12SA .....**Flush** Panel Mount; Front Controls	#CPBF 12SA ..... **Flush** Panel Mount; Front Controls
#CPSR 12SA .....**Flush** Panel Mount; Rear Controls	#CPBR 12SA .....**Flush** Panel Mount; Rear Controls

* Please see our web site for the latest additions and updates to the CyRAQ® family

2.2 Rack Mounting

IMPORTANT! Ask yourself these questions before beginning installation:

1. Is sufficient power is available?
2. Is sufficient space is available to allow for proper airflow both inside and around the display?
3. Is there a possibility the air temperature inside the rack will exceed the CyRAQ® 17's rated specification? (Operating temperature: 32°F....122°F ((0°C....50°C)).)

NOTE: Though this product is designed to operate up to 122°F (45°C) with proper ventilation, the life span of any electronic device is shortened when it is consistently operated at high temperatures—keep rack temperature as low possible

4. Is there a possibility that the ambient humidity around the display will exceed its rated specification? (Relative Humidity, non-condensing: 5%....95%)

2.2.1 Installation

NOTE Subsequent steps require two people.

1. Align holes in the front bezel with server rack mounting holes.
2. A second person should install the eight 10-32 x 1/2″ button head bolts through rack-mounting holes in bezel and into the server rack (see Figure 1).
3. From inside rack, install and tighten mounting nuts (if applicable).

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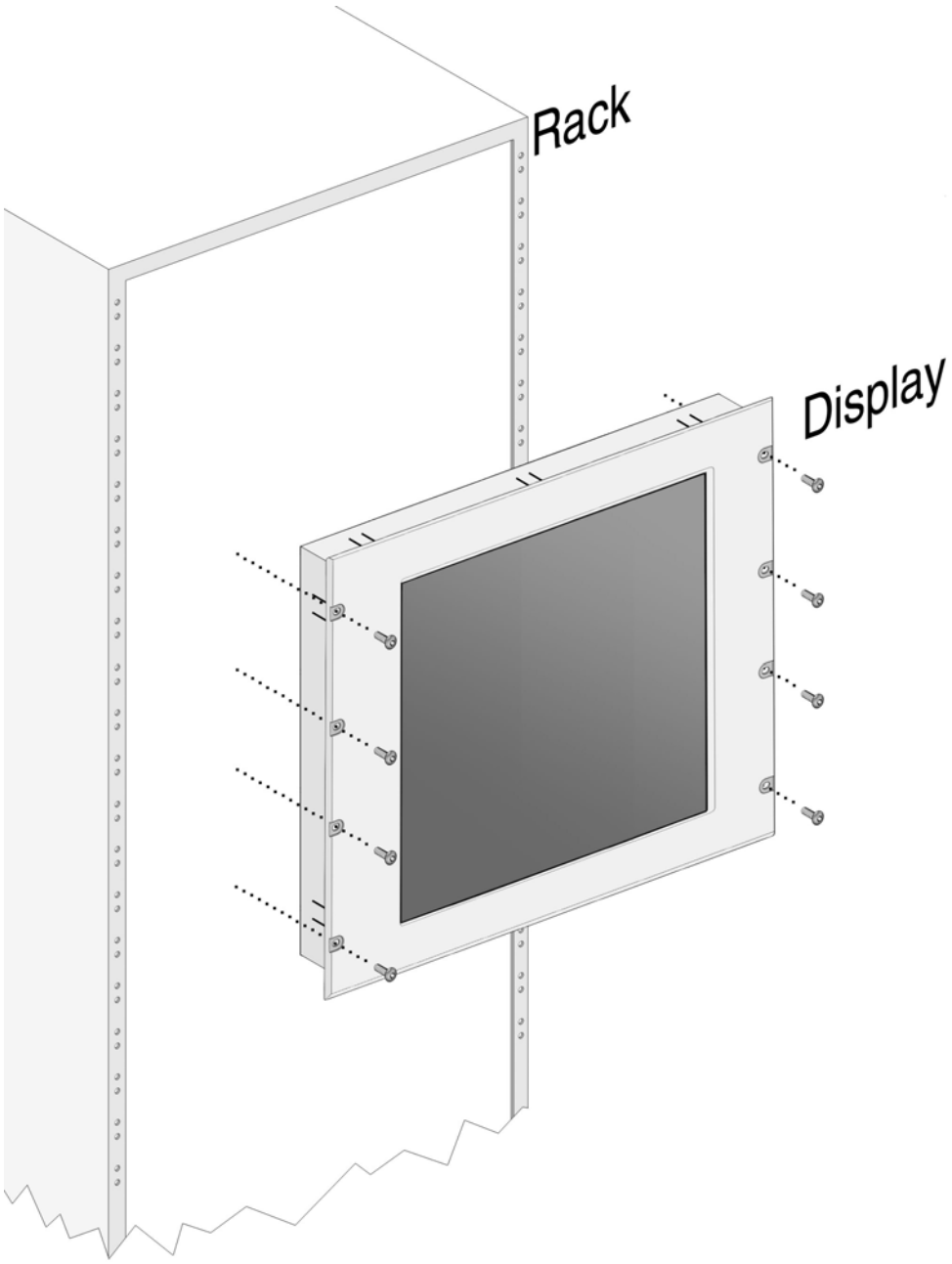

Figure 1: Rack Mounting Illustration

2.3 Panel Mounting

Prior to performing subsequent steps, ensure the panel-mounting location (including panel thickness) is suitable for the CyRAQ® 17A, and meets Environmental requirements in the General Specifications section.

NOTE: Panel thickness should not exceed: .55" (14.1mm) if the unit has the standard 3.2mm (1/8") Poron™ gasket installed. Suggested panel thickness is calculated based on standard CyRAQ 17 parts and dimensions, custom units may not meet these specifications. Prior to panel mounting a CyRAQ 17A, the included gasket must be affixed to the rear of the enclosure.

2.3.1 Panel Mounting the Monitor

1. Cutout dimensions are: 15.12" (384mm) W x 13.62" (346mm) H for portrait installation.
2. Install CyRAQ 17 in panel cut out. Ensure Poron™ gasket on the rear of the unit is flush against panel (critical for NEMA compliance).

- - - Illustrations Begin On Next Page - - -

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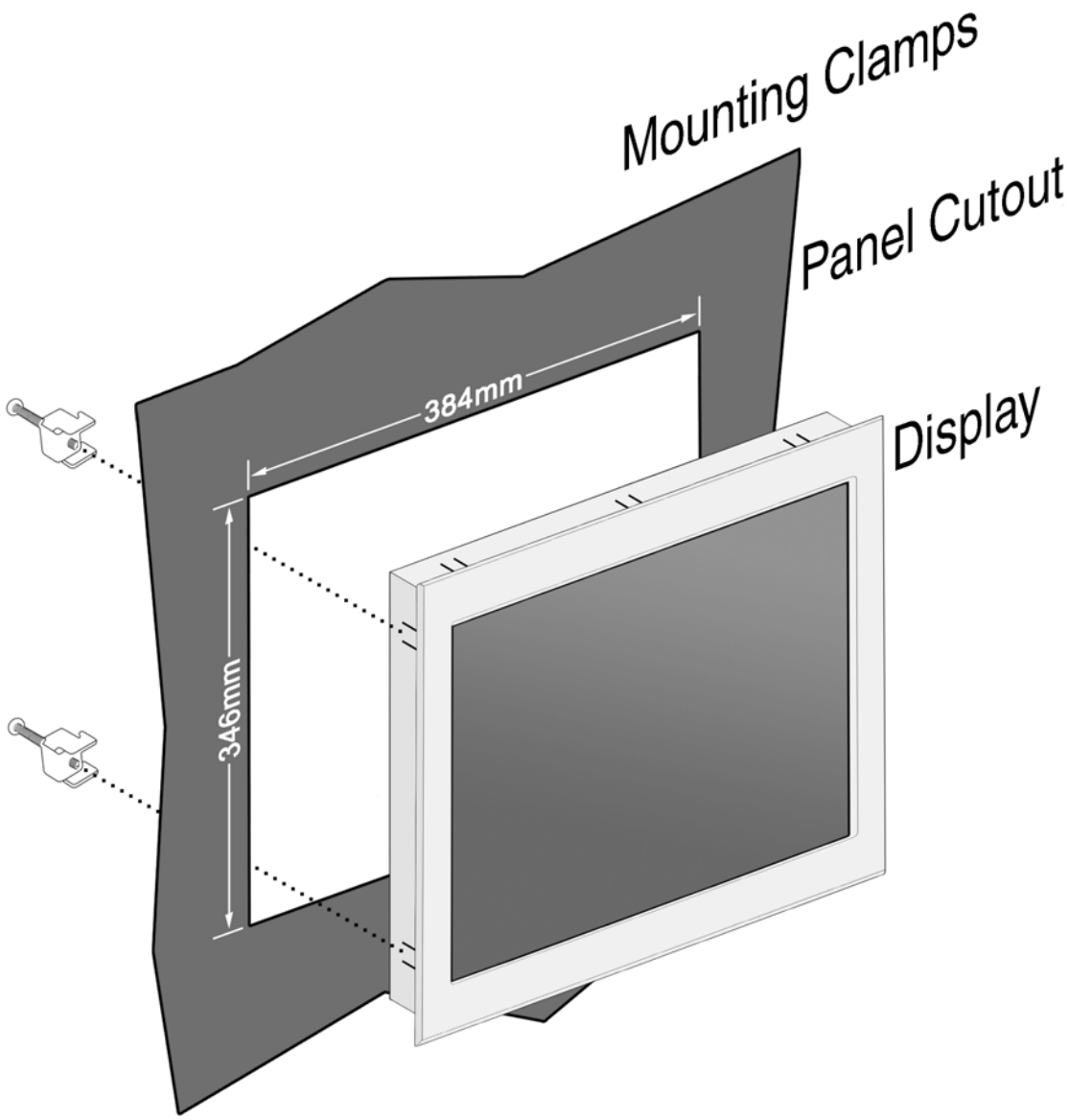

Figure 2: Panel Mounting Illustration

NOTE: Steps 3, 4 & 5 (next page) require a second person—see mounting detail on next page.

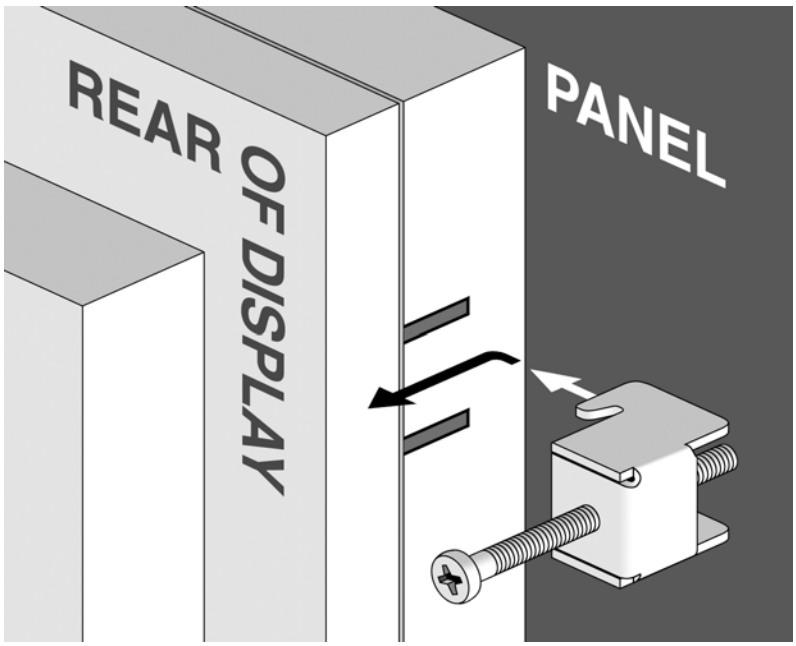

Figure 3: Insert Mounting Clamps Illustration

3. With a second person holding the display in place at the front of the panel, insert Mounting Clamps into slots on rear of display, as shown.

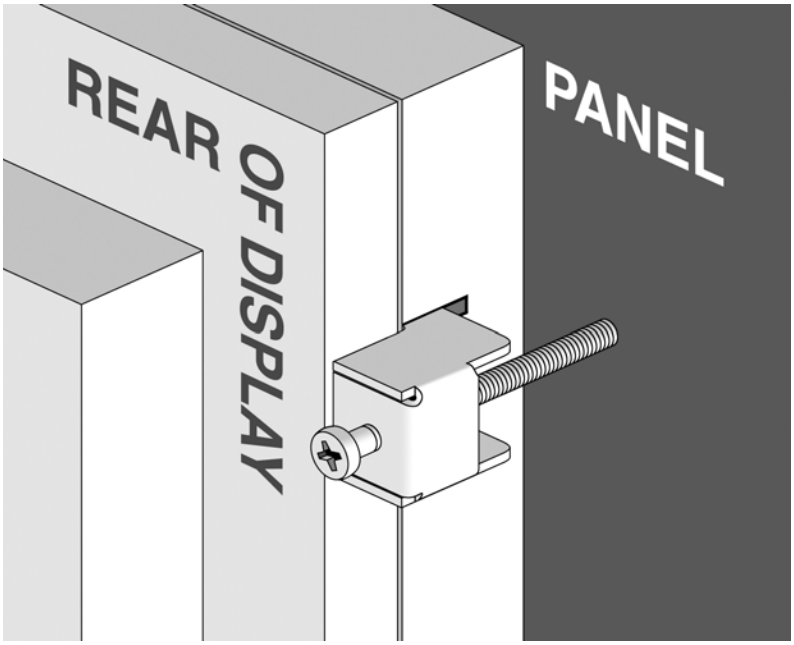

Figure 4: Tighten Mounting Clamp Illustration

4. Ensure that hooks on clamp, butt against rear of slot as shown in Figure 4.

5. Tighten Mounting Clamps with Phillips head screwdriver, until snug.

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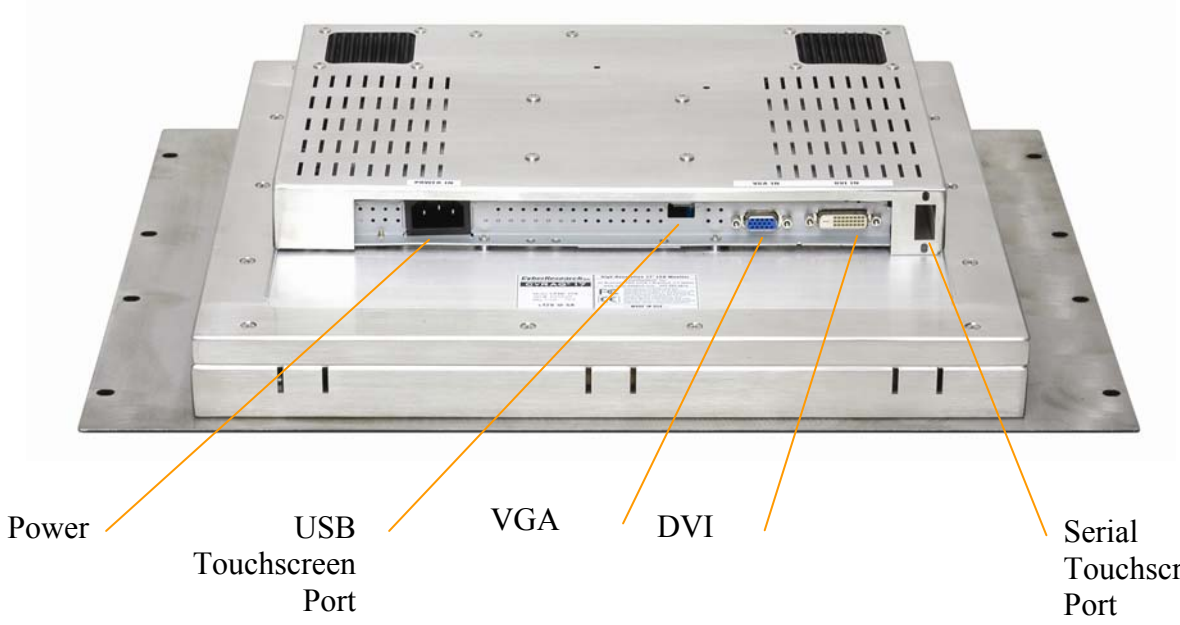
2.4 Display Connection

IMPORTANT! Before connecting power to the display, connect all the other cables first.

Figure 5: Connection Layout (Rack-Mount Version Shown)



NOTE: Turn off the computer before connecting the display

1. Connect cables to the display
2. After connecting all other cables, connect the power cable.
3. Once the load is ready to receive power, turn on the power source to the converter
4. Press the On/Off Button on the front of the display.
5. Start the computer.
6. If the computer is running, restart.
7. The display should now function normally.

NOTE: See Touchscreen section for connection and driver instruction

NOTE: If the screen remains blank or displays the error message "Out of Range" or "No Input Signal," there may be a connection or signal problem. One or a combination of the possibilities listed below may be the cause:

- Windows resolution is set either too high or two low for the display; check the resolution by reinstalling the old monitor
- The refresh rate may be set too high. The refresh rate of an LCD monitor doesn't need to be set as high as a CRTs refresh rate; set the refresh rate @ 60Hz.
- The power source isn't connected correctly.
- The video cables aren't tightly connected at one or both ends; reconnect and tighten the cable adapter screws.
- The display is reading an input without a connected source; push Input Select button to access the correct input.
- The unit is malfunctioning.

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3 Using the CyRAQ® 17

3.1 User Controls

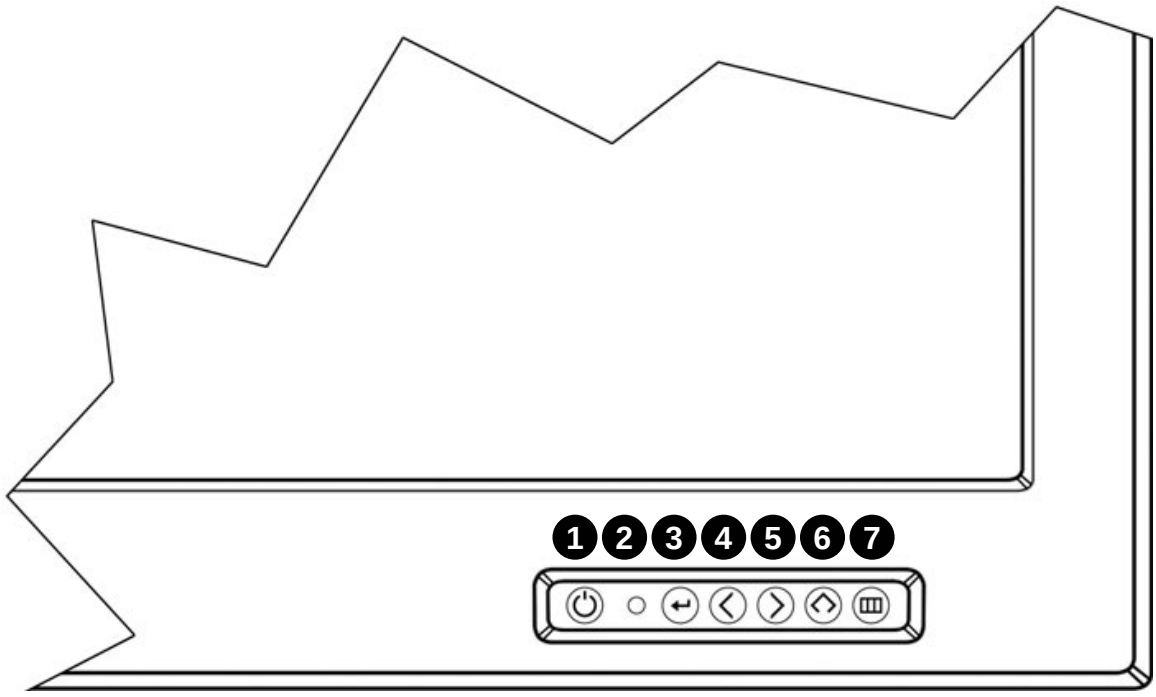
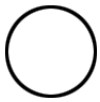
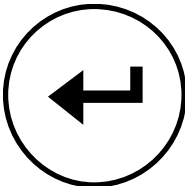
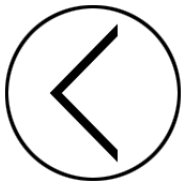
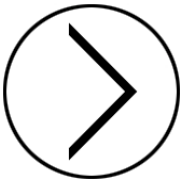
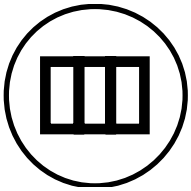


Figure 6: User Controls

Function Button	Action
1	**Power On/Off** This button turns the display on and off.
2 	**LED Light** Indicates Status of Monitor 1. Green: Power On. 2. Amber: Standby 3. Off: Power Off
3 	**Source** ***OSD ON:*** Shuts off OSD ***OSD OFF:*** Launches LCD preset configurations
4 	**Adjust -** ***OSD ON:*** Used to adjust (down) the value of selected OSD control option ***OSD OFF:*** Used as a hot key to quickly adjust contrast
5 	**Adjust +** ***OSD ON:*** Used to adjust (up) the value) of selected OSD control option ***OSD OFF:*** Used as a hot key to quickly adjust brightness
6	**Exit** ***OSD ON:*** Up one menu level/deselects current menu item ***OSD OFF:*** Launches LCD preset configurations
7 	**Menu/Select** ***OSD ON:*** Selects options once OSD is launched ***OSD OFF***: Launches OSD menu

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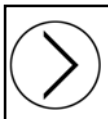
3.1.1 Hot Key Functions:

When the OSD is not on-screen, some display controls have secondary functions:

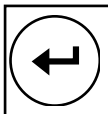
Contrast

Adjust - can be used as a hot key to quickly adjust the contrast level without entering the OSD menu.



Brightness

Adjust + can be used as a hot key to quickly adjust the brightness level without entering the OSD menu.



Preset Configurations

This button can be used as a hot key to quickly switch to any of the five LCD preset configurations: Scenery Mode, Standard Mode, Theatre Mode, Game Mode & Night Mode.

3.2 0

OSD Menu Layout

Scenario	Color Adjust	Luminance	OSD Setup	Image Setup*	Input Selection	Information	Language	Reset	Exit
Scenery Mode	**RGB** • Red • Green • Blue	Brightness	OSD H-Position	**Focus** • Phase • Clock	Analog	--------	English	No	--------
Standard Mode	--------	Contrast	OSD V-Position	**Image Position** • H-Pos • V-Pos	Digital	--------	French	Yes	--------
Theatre Mode	--------	--------	OSD Timeout	Auto Adjust	--------	--------	Deutsh	--------	--------
Game Mode	--------	--------	--------	--------	--------	--------	Spanish	--------	--------
Night Mode	--------	--------	--------	--------	--------	--------	Italian	--------	--------
--------	--------	--------	--------	--------	--------	--------	Dutch	--------	--------
--------	--------	--------	--------	--------	--------	--------	РусскИЙ	--------	--------

* Functions available in Analog Mode Only

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4 Touchscreen

Touchscreens are the ultimate human/machine interface. In a touchscreen system, touching what you see onscreen makes the computer respond. The touchscreen system is logical, intuitive and simple. Using touchscreens, workers can precisely control complicated processes without being tethered to a keyboard and mouse. People who have never used a computer before can immediately interact successfully with a touchscreen-based computer system allowing airline customers to access flight information, CNC machinists to quickly change programs, and wait staff can instantly send your order to the kitchen—all with the touch of their finger.

4.1 Installation

The Touchscreen and internal controller board inside your CyRAQ® display have already been installed for you by the engineers at CyberResearch, Inc. You should never need to open the case of this unit to install/change any of the internal connections or for any other reason. If you think there is an internal connection problem, contact CyberResearch Inc. immediately.

4.1.1 Serial Cable Connection

1. Shutdown your computer.
2. Plug the DB9 male end of the supplied serial cable into the DB9 female connector on the back of the CyRAQ enclosure.
3. Plug the DB9 female end of this cable into the computer's DB9 serial port. If you have a 25-pin serial port, use the optional DB9 male to DB25 female adapter.

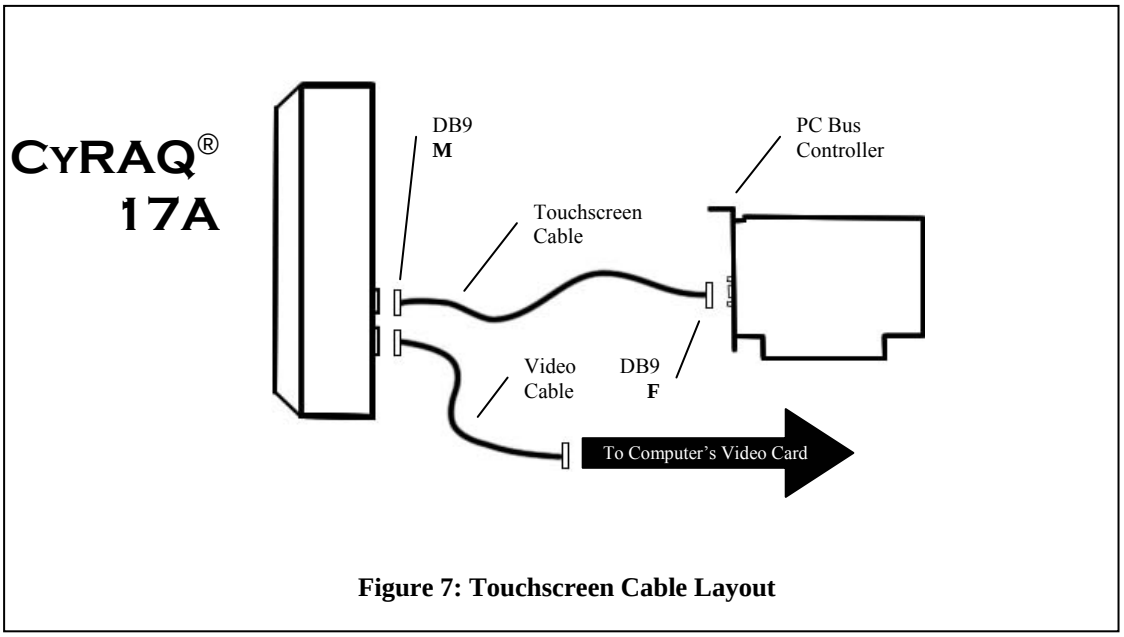

Figure 7: Touchscreen Cable Layout

4.1.2 USB Cable Connection

1. Shutdown your computer.
2. Plug the USB cable into the display's USB connector on the back of the enclosure.
3. Plug the other end of the USB cable into a free USB port on the back of the computer.

4.1.3 Touchscreen Driver Installation

1. Reboot your computer.
2. After Windows loads, put the CyRAQ Software & Manuals CD into the CD drive.

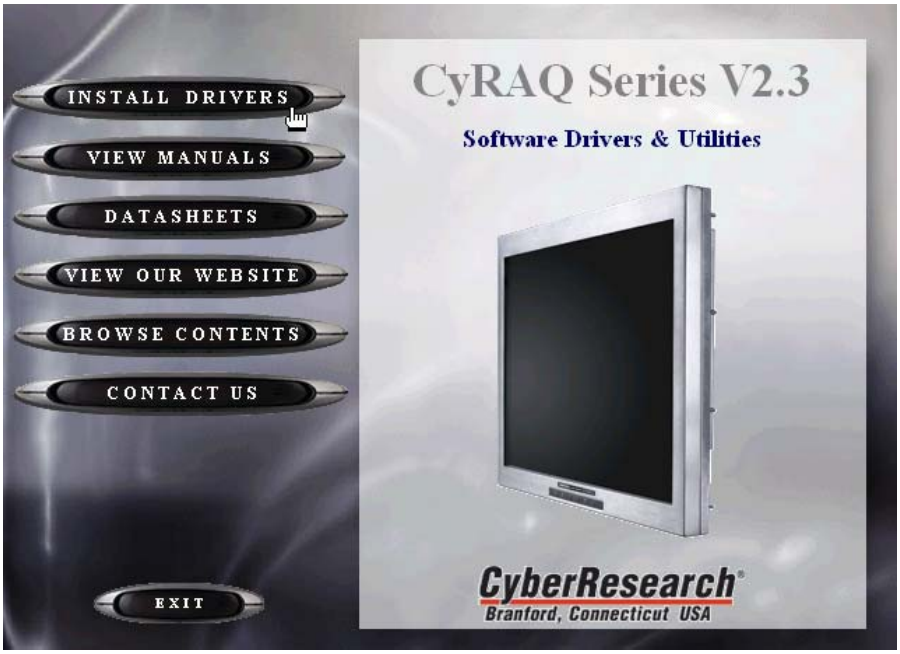

Figure 8: Splash Screen

3. When the splash screen appears (Figure 8: Splash Screen) click on Install Drivers.

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4. Then click Touchscreen (Figure 9).

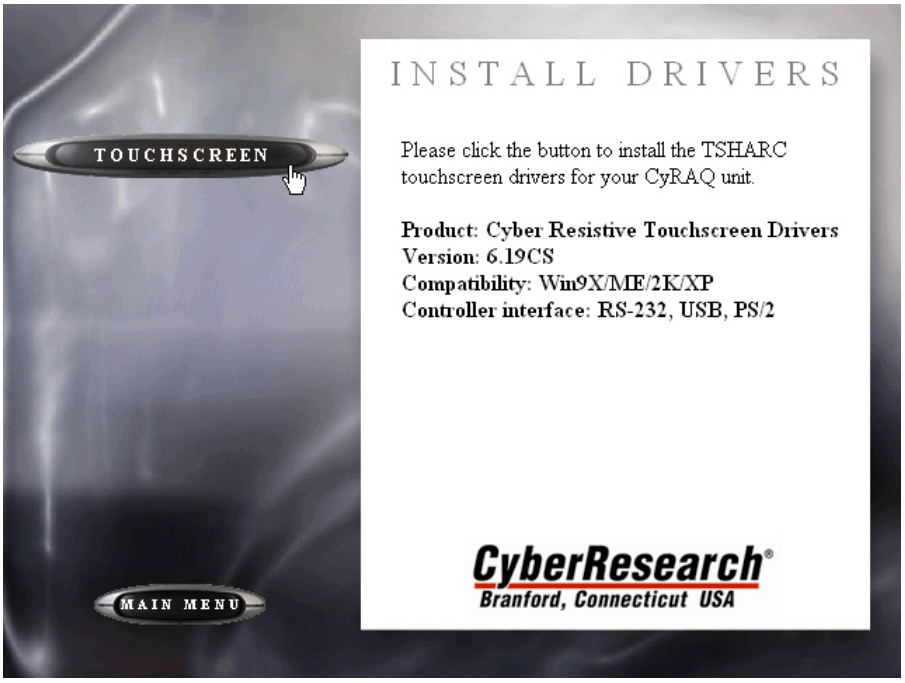
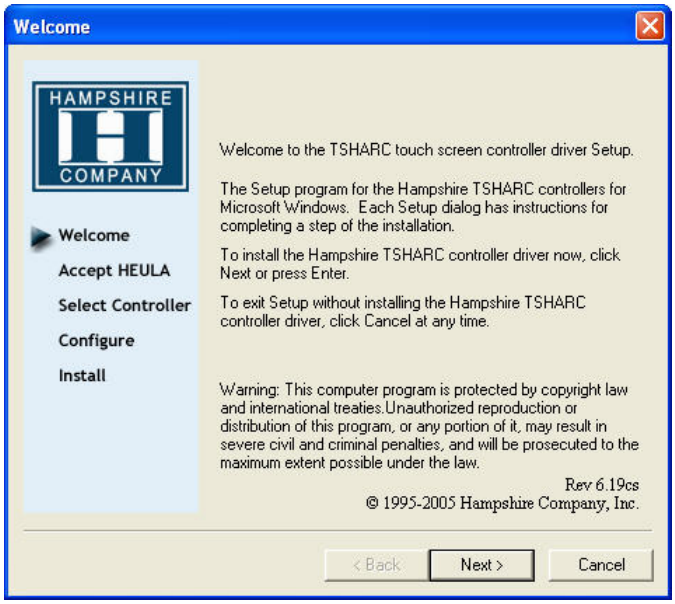
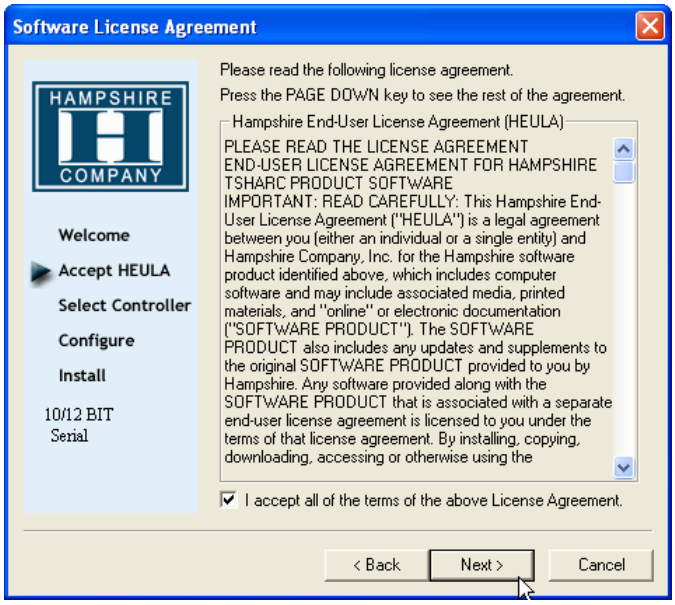


Figure 9: Install Products

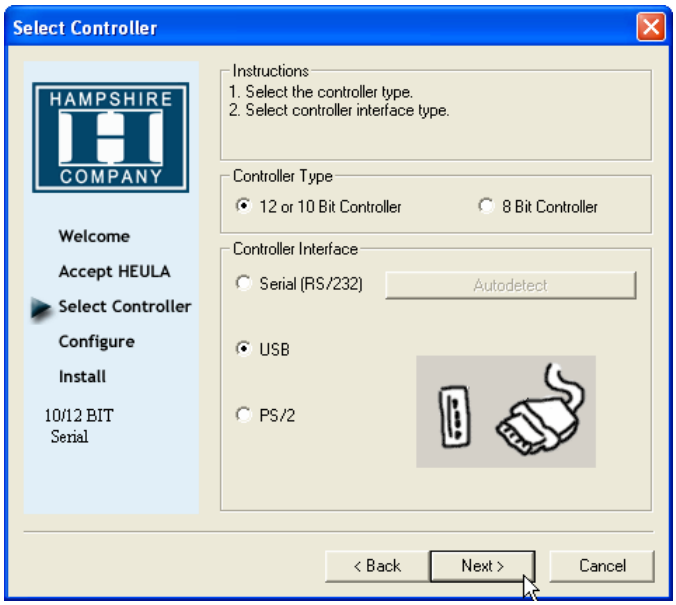
5. After the Welcome window appears, click Next.


Welcome
HAMPSHIRE COMPANY
Welcome
Accept HEULA
Select Controller
Configure
Install
Welcome to the TSHARC touch screen controller driver Setup.
The Setup program for the Hampshire TSHARC controllers for Microsoft Windows. Each Setup dialog has instructions for completing a step of the installation.
To install the Hampshire TSHARC controller driver now, click Next or press Enter.
To exit Setup without installing the Hampshire TSHARC controller driver, click Cancel at any time.
Warning: This computer program is protected by copyright law and international treaties. Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Rev 6.19cs
© 1995-2005 Hampshire Company, Inc.
< Back
Next >
Cancel

6. After accepting the license agreement, click Next.


Software License Agreement
HAMPSHIRE COMPANY
Welcome
Accept HEULA
Select Controller
Configure
Install
10/12 BIT Serial
Please read the following license agreement.
Press the PAGE DOWN key to see the rest of the agreement.
Hampshire End-User License Agreement (HEULA)
PLEASE READ THE LICENSE AGREEMENT
END-USER LICENSE AGREEMENT FOR HAMPSHIRE TSHARC PRODUCT SOFTWARE
IMPORTANT: READ CAREFULLY: This Hampshire End-User License Agreement ("HEULA") is a legal agreement between you (either an individual or a single entity) and Hampshire Company, Inc. for the Hampshire software product identified above, which includes computer software and may include associated media, printed materials, and "online" or electronic documentation ("SOFTWARE PRODUCT"). The SOFTWARE PRODUCT also includes any updates and supplements to the original SOFTWARE PRODUCT provided to you by Hampshire. Any software provided along with the SOFTWARE PRODUCT that is associated with a separate end-user license agreement is licensed to you under the terms of that license agreement. By installing, copying, downloading, accessing or otherwise using the
I accept all of the terms of the above License Agreement.
< Back
Next >
Cancel

7. Select controller type, interface and then click Next.



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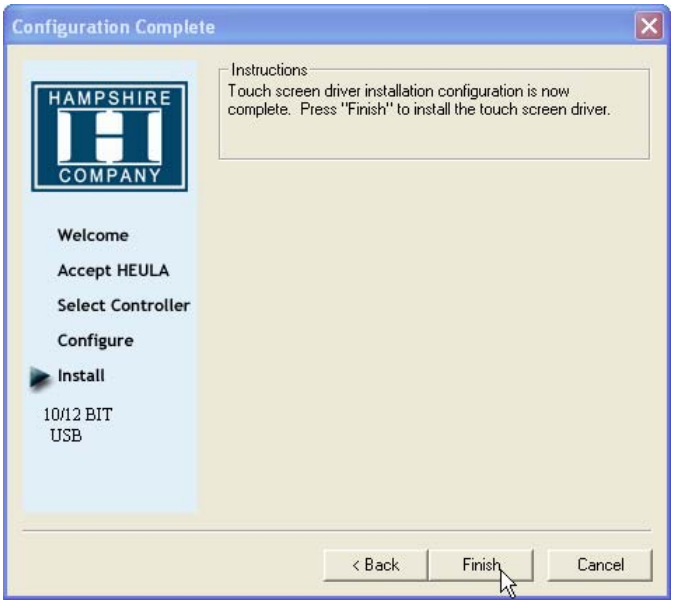
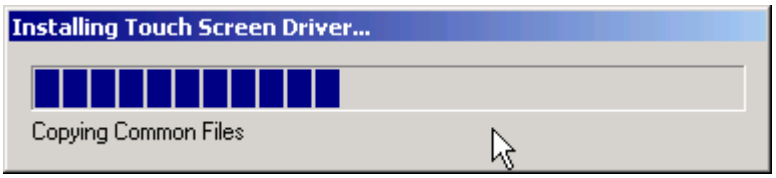
8. Click Finish to install touch screen driver.



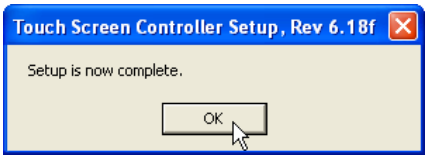
9. An installation progress bar appears.



10. The driver you are installing ***is compatible*** with Windows. Click Continue Anyway (you may need to do this more than once).

Software Installation
The software you are installing has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the software vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

11. Click OK



4.2 Calibration

4.2.1 Calibration Options:

Three point calibration: Quick calibration of a known good touchscreen overlay. May be used to evaluate, test or verify actual touchscreen linearity.

- No correction.

Four Point Calibration (Default): Will compensate for skew, and some edge linearity anomalies.

- Best for general calibration.

Seven Point Calibration: More accurate than 3 point calibration. Helps calibrate screen to the edges.

- No correction.

Twenty Point Calibration: Provides the highest level of touchscreen linearization and skew correction. Should be used to get the best possible calibration

- May be used to extend the life of a failing touchscreen.

Calibration Offset: Because of the varied linearity that exists between touchscreen types, you may want to calibrate the edges of the touchscreen more precisely. Experiment with this setting to find the best result.

- Default is 20%.
- Select the large target to calibrate.

4.2.2 Configure Calibration Settings

Generally speaking, the default setting of 4 Point Calibration is quite accurate for most applications. ***It is recommended the user try this default setting before configuring calibration with a different setting.*** If adjustments need to be made, use the procedure on the next page:

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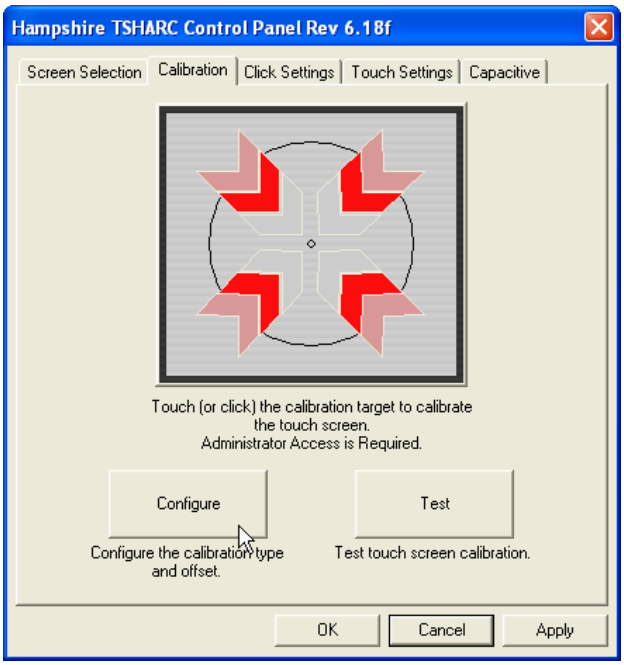
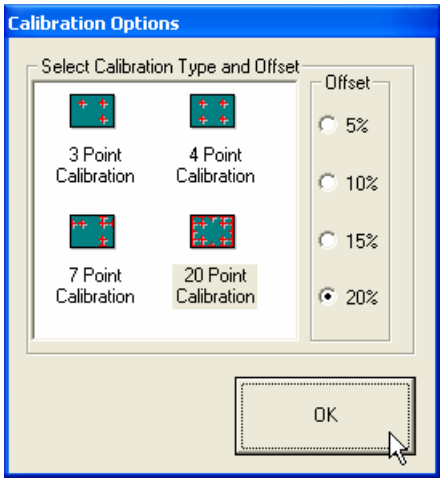
1. Open the Hampshire TSHARC Control Panel (Start\All Programs\ Hampshire TSHARC Control Panel). Click the Calibration tab.



2. Click/touch on the Configure button.



3. When the Calibration Options window appears:
   a. Click/touch on **a Calibration Type** icon

      -AND-

   b. Choose an Offset radio button.
4. Then click/touch OK.

4.2.3 Calibration Routine

1. Click/touch the calibration target seen in Figure 10 to begin calibration routine.

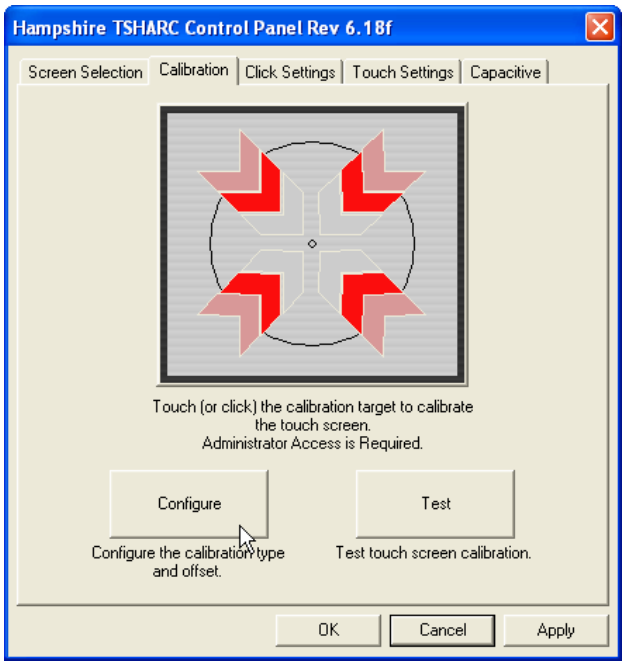


Figure 10: Calibration Target

2. Follow the on-screen prompts to complete calibration process.

Once you have selected the large calibration target from the control panel, the calibration program will begin.

3. As each target is displayed on the screen TOUCH and hold the center of each target as directed by the text located adjacent to each target.
4. Touch the center of each target as accurately as possible.

Hampshire calibration targets have been specially developed to assist you in calibrating your touchscreen as accurately as possible.

5. As each target is displayed, touch and hold the center of each calibration target until it shrinks and the “Hold” text changes to “Release”.

The calibration screen will automatically time out and return you to the control panel if the first point is not touched within 10 seconds. This time-out feature has been added to the calibration program to insure that you can exit the calibration screen in the event that you have a damaged our disconnected touchscreen. This time-out feature may also be configured for other time-out values.

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4.2.4 Calibration Test

This is the last screen displayed in the calibration process.

1. Touch the screen and notice if the calibration target is displayed under your finger or stylus. If the target appears directly under your finger, select the "Accept" button.
2. If the target does not appear directly beneath your finger or stylus, select the "Cancel" button, reconfigure your calibration options and recalibrate until you get an acceptable calibration. You may adjust the "Offset", or try a different calibration scheme.
3. Select "Accept" to apply and record your calibration data.
4. Select "Cancel" to return to the calibration tab. Once you return to the calibration tab, select, "OK" or "Apply" to save your settings.
5. If you have multiple monitors return to the "Screen Selection" tab and select another monitor to calibrate.

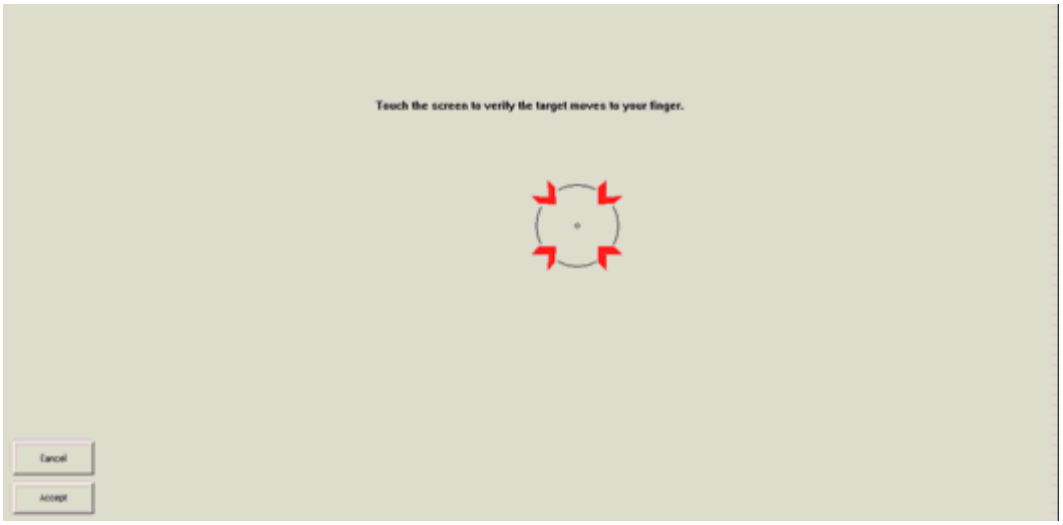
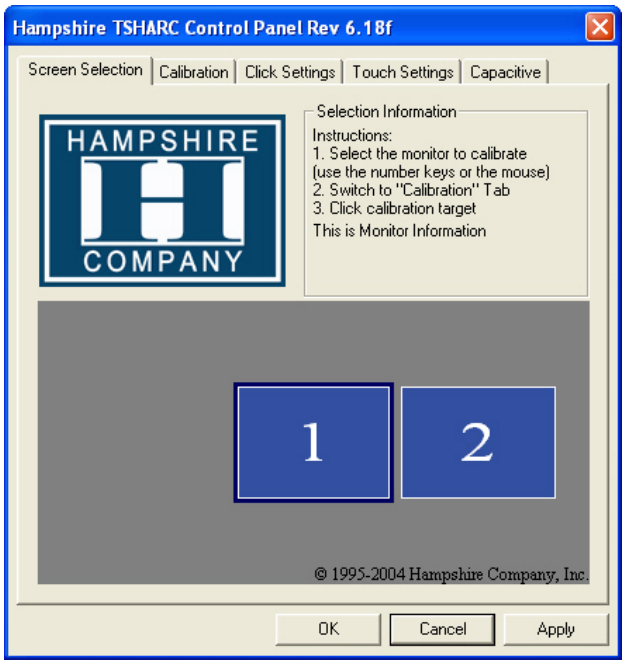


Figure 11: Calibration Target

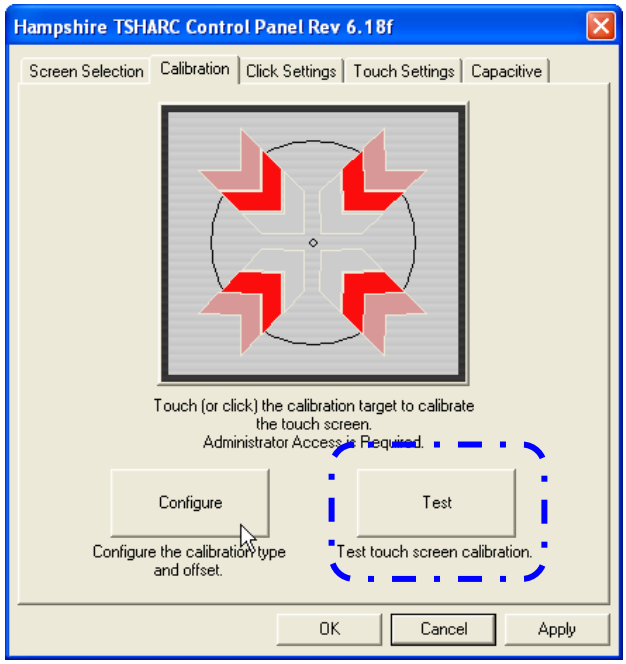
4.2.5 Drawing Test

Use the Test Feature to ensure calibration is accurate. Once you have calibrated your touchscreen, you may select the "Test" button located on the calibration tab of the control panel. This is a simple drawing program that you may use to determine if you touchscreen is working properly.

1. Open the Hampshire TSHARC Control Panel (Start\All Programs\ Hampshire TSHARC Control Panel).



2. Click/touch the Calibration Tab, then click/touch the Test button



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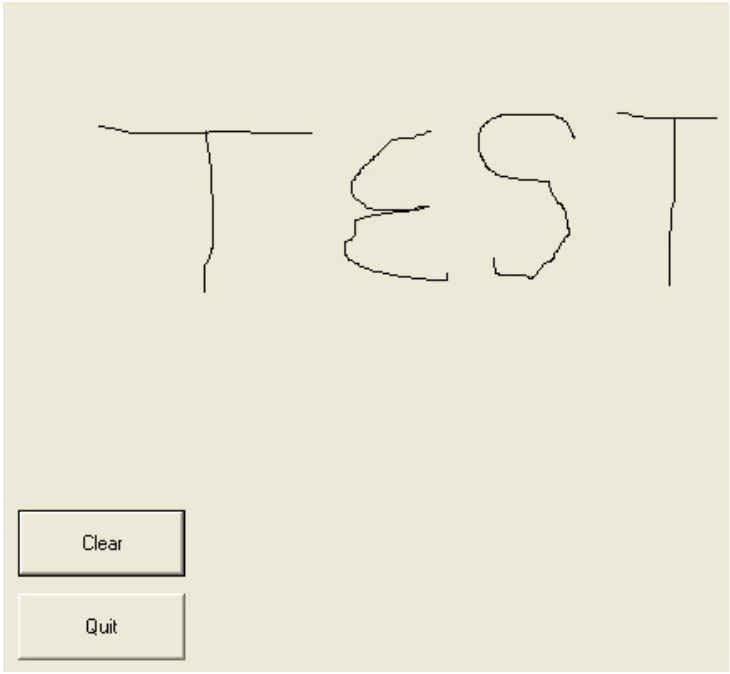
3. Tap some points on the screen, or, write a word to ensure the program renders the contact points correctly.



4. When done, click/touch Quit.

4.2.6 Right Click Emulation

The TSHARC Control Panel permits users to enable Right Click Emulation, which simulates functionality (where applicable) of a right mouse click. It works by touching the same point on the touchscreen for a specific amount of time predetermined on the Click Settings tab of the TSHARC Control Panel. You can enable this functionality and define the amount of time necessary on the Click Settings tab, as seen in Figure 12.

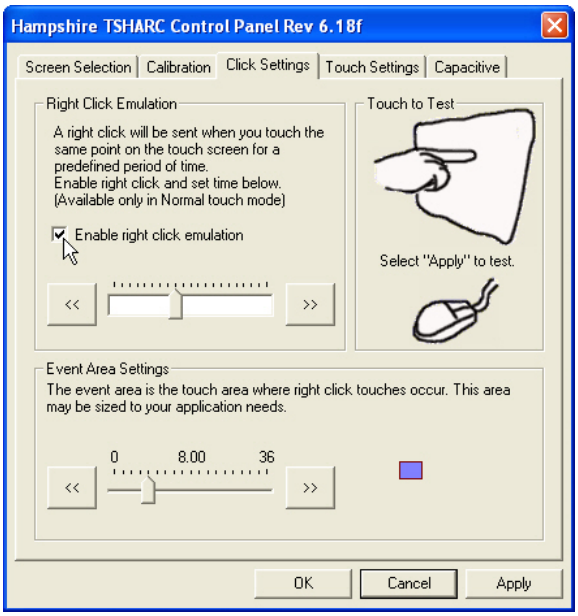

Hampshire TSHARC Control Panel Rev 6.18f
Screen Selection
Calibration
Click Settings
Touch Settings
Capacitive
Right Click Emulation
A right click will be sent when you touch the same point on the touch screen for a predefined period of time.
Enable right click and set time below.
(Available only in Normal touch mode)
Enable right click emulation
<<
>>
Touch to Test
Select "Apply" to test.
Event Area Settings
The event area is the touch area where right click touches occur. This area may be sized to your application needs.
0
8.00
36
<<
>>
OK
Cancel
Apply

Figure 12: Click Settings Tab

1. Click the Enable right click emulation checkbox to activate this feature.
2. The slider below the checkbox is used to determine the amount of time necessary when holding down a touchpoint to generate the right click event.

Event Area Settings:

Since it may be difficult to touch and hold an exact point on any touchscreen for a length of time, an event area is used to establish the size of the area in which a "hold" is acceptable.

3. The even area should be set to at least the same size as your finger tip.
4. Click or touch "Apply" to apply your selection. "OK" to apply and exit the control panel

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4.2.7 Touch Settings

Touch Sound: Check "Enable touch sound" to enable a beep when the touchscreen is touched.

Normal: Emulates a standard mouse. Selecting "Normal" will allow for single click, double click, drawing, dragging and right click option (if right click is enabled).

Touch Down: Touch down will allow for a click event to take place at touch down. You will not be able to draw or drag if this option is selected.

Touch Up: Touch sent only at touch up. Disables right click and double click functions. Click or touch "Apply" to apply your selection. "OK" to apply and exit the control

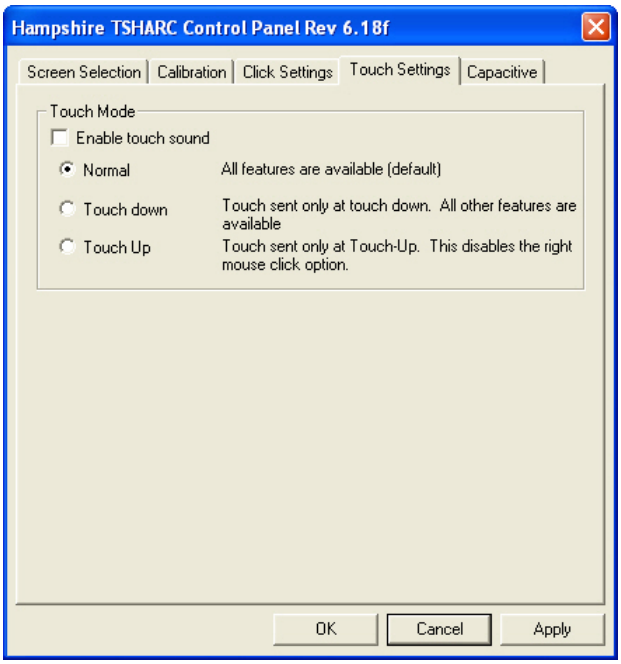

Figure 13: Touch Settings Tab

5 Product Care

The CYRAQ® 17A is primarily a maintenance-free product. It does require occasional cleaning to keep it looking and performing its best. Additionally, please make sure the unit is placed with consideration for environmental temperature, humidity shock and vibration tolerances noted in the Specifications section of this manual. Those specifications are listed again below for your convenience.

Environmental Specifications	
Operating Temperature	32°F....122°F (0°C....50°C)
Storage Temperature	-4°F....140°F (-20°C....60°C)
Relative Humidity, noncondensing	5%....95%

5.1 Cleaning

Prior to cleaning the CYRAQ 17A, disconnect power to the device.

5.1.1 Touchscreen

Clean the touchscreen with household glass cleaner or just plain water, and soft cloth.

- We do not recommend using paper products to clean the touchscreen.
- Always dampen the towel ***first***, and then clean the touchscreen to reduce abrasion from the cleaning applicator.
- Glass cleaner sprayed directly onto the CYRAQ 17A screen could possibly be over sprayed leak into the back of a unit if not mounted correctly, and cause damage.

5.1.2 LCD

Clean the LCD screen with household glass cleaner or just plain water, and soft cloth.

- Do not spray cleaner or water directly on any part of the unit—front or back.
- We do not recommend using paper products to clean your display screen
- Always dampen a soft cloth ***first***, and then clean the LCD screen to reduce abrasion from the cleaning applicator.
- Do not use or store flammable substances near the monitor.

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5.1.3 Fan Filters

Periodically, you may find it necessary to clean fan filters built into the back of the enclosure. Cleaning frequency is largely based on environmental and other conditions immediately surrounding the unit. Since most applications require the CYRAQ® 17A to panel-mounted, the engineers at CyberResearch, Inc. designed a filter system users can maintain without dismounting the display, disassembling the unit, or removing the fan filters from the enclosure.

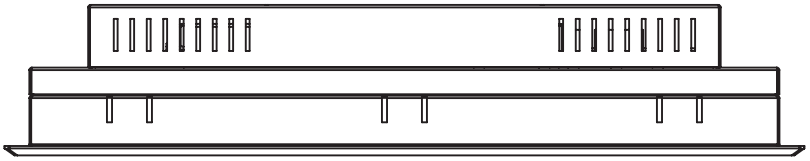
Disconnect power to the unit before beginning the subsequent steps

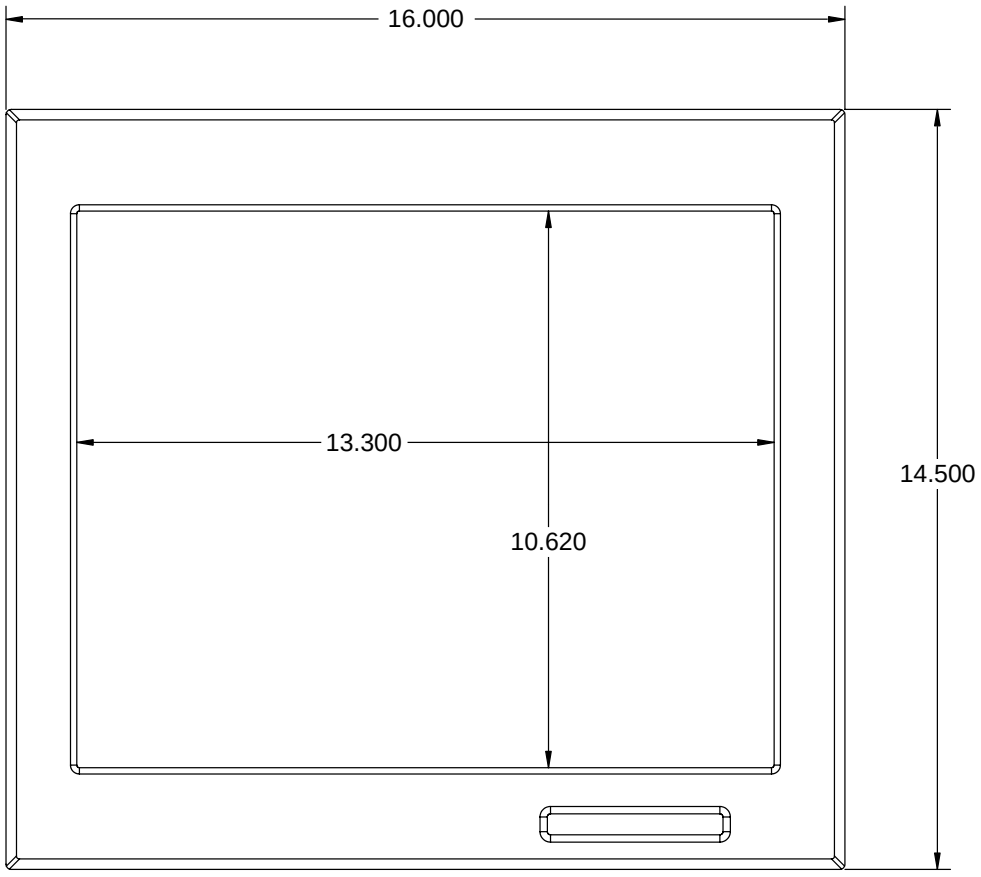
To clean the fan filters:

1. Power off the unit using the On/Off switch.
2. Unplug the unit's AC power.
3. Gain access to the rear of the unit.
4. Carefully run a vacuum hose (using a crevice attachment is ideal) over the protective fan filter screens to remove dust and debris from the protective covers and underlying fan filters themselves.
5. When done, restore power to unit.

Figure 14: Fan Filter Location

6 Mechanical Drawings (Panel-Mount)





*Dimensions = Inches

Figure 15 Front Panel Dimensions

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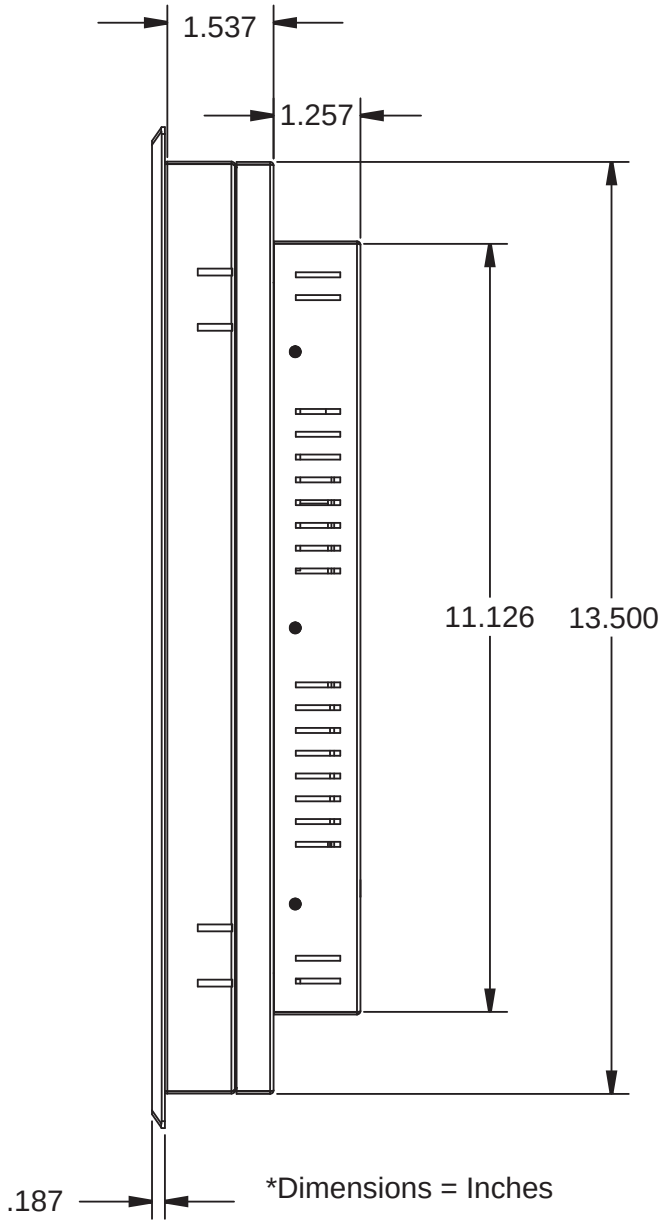

Figure 16: Depth Dimensions

Intentionally Blank

2

.

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Product Service

Diagnosis and Debug

CyberResearch, Inc. maintains technical support lines staffed by experienced Applications Engineers and Technicians. There is no charge to call and we will return your call promptly if it is received while our lines are busy. Most problems encountered with data acquisition products can be solved over the phone. Signal connections and programming are the two most common sources of difficulty. CyberResearch support personnel can help you solve these problems, especially if you are prepared for the call.

To ensure your call's overall success and expediency:

1) Have the phone close to the PC so you can conveniently and quickly take action that the Applications Engineer might suggest.
2) Be prepared to open your PC, remove boards, report back-switch or jumper settings, and possibly change settings before reinstalling the modules.
3) Have a volt meter handy to take measurements of the signals you are trying to measure as well as the signals on the board, module, or power supply.
4) Isolate problem areas that are not working as you expected.
5) Have the source code to the program you are having trouble with available so that preceding and prerequisite modes can be referenced and discussed.
6) Have the manual at hand. Also have the product's utility disks and any other relevant disks nearby so programs and version numbers can be checked.

Preparation will facilitate the diagnosis procedure, save you time, and avoid repeated calls. Here are a few preliminary actions you can take before you call which may solve some of the more common problems:

1) Check the PC-bus power and any power supply signals.
2) Check the voltage level of the signal between SIGNAL HIGH and SIGNAL LOW, or SIGNAL+ and SIGNAL– . It CANNOT exceed the full scale range of the board.
3) Check the other boards in your PC or modules on the network for address and interrupt conflicts.
4) Refer to the example programs as a baseline for comparing code.

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Warranty Notice

CyberResearch, Inc. warrants that this equipment as furnished will be free from defects in material and workmanship for a period of one year from the confirmed date of purchase by the original buyer and that upon written notice of any such defect, CyberResearch, Inc. will, at its option, repair or replace the defective item under the terms of this warranty, subject to the provisions and specific exclusions listed herein.

This warranty shall not apply to equipment that has been previously repaired or altered outside our plant in any way which may, in the judgment of the manufacturer, affect its reliability. Nor will it apply if the equipment has been used in a manner exceeding or inconsistent with its specifications or if the serial number has been removed.

CyberResearch, Inc. does not assume any liability for consequential damages as a result from our products uses, and in any event our liability shall not exceed the original selling price of the equipment.

The equipment warranty shall constitute the sole and exclusive remedy of any Buyer of Seller equipment and the sole and exclusive liability of the Seller, its successors or assigns, in connection with equipment purchased and in lieu of all other warranties expressed implied or statutory, including, but not limited to, any implied warranty of merchant ability or fitness and all other obligations or liabilities of seller, its successors or assigns.

The equipment must be returned postage prepaid. Package it securely and insure it. You will be charged for parts and labor if the warranty period has expired.

Returns and RMAs

If a CyberResearch product has been diagnosed as being non-functional, is visibly damaged, or must be returned for any other reason, please call for an assigned RMA number. The RMA number is a key piece of information that lets us track and process returned merchandise with the fastest possible turnaround time.

PLEASE CALL FOR AN RMA NUMBER!

Packages returned without an RMA number will be refused!

In most cases, a returned package will be refused at the receiving dock if its contents are not known. The RMA number allows us to reference the history of returned products and determine if they are meeting your application's requirements. When you call customer service for your RMA number, you will be asked to provide information about the product you are returning, your address, and a contact person at your organization.

Please make sure that the RMA number is prominently displayed on the outside of the box.

• Thank You •

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